ASL

Australian Society for Limnology Inc.

NEWSLETTER

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AUSTRALIAN SOCIETY FOR LIMNOLOGY INC.

The Australian Society for Limnology Inc. (ASL) is an Australian-based scientific society whose focus is the study and management of inland waters. The ASL was established in 1961, and has a current membership of over 550 researchers, managers, engineers, teachers and tertiary level students from all states and territories. Members have a strong professional interest in inland aquatic issues, including the maintenance of biodiversity, the maintenance and/or restoration of water quality, and the wise use of aquatic resources. The Society also has a strong interest in fostering the scientific and intellectual development of tertiary students.

The Society includes members working in government agencies, tertiary institutions and many industries related to aquatic resources. Through their daily activities, members have contact with local communities and are in a sound position to interpret and advise on inland water issues. The Society has a substantial knowledge base, and has assumed a responsibility to ensure that this is available to those who manage inland waters.

Accordingly, the charter of the ASL is to further our understanding of Australia's inland waters and to promote their wise use and sustainable management. In this manner we will contribute to the continued existence of this valued resource and the maintenance and enhancement of the quality of life for all Australians. The ASL regularly produces a newsletter with notes on limnological activities, articles of interest, book reviews and announcements of upcoming events likely to be of interest to Members.

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PRESIDENT'S REPORT

It was great to see so many old faces (and quite a number of newer ones) at the Annual Conference in Albury. I thought that the quality of the presentations was excellent – this and the broad range of topics discussed is clear evidence of a healthy, vibrant Society. Thanks to Ben Gawne, Rhonda Sinclair and others from the Organising Committee from the MDFRC, Charles Sturt University and LaTrobe for stepping up to the plate at such short notice and running such a successful event.

Next year's meeting will of course be held in association with the New Zealand Freshwater Sciences Society in Queenstown (South Island) (details are on the ASL website). I encourage all members to mark these dates in your calenders now to ensure that we have a good turnout (and keep our kiwi colleagues under control).

I am very pleased to have the opportunity to serve as President of ASL again. There has never been a more exciting and important time to be a researcher or manager with interests in inland and coastal waters. We face a great challenge in meeting growing demands for water, in the face of an increasing population and a changing climate, without degrading our significant river and wetland assets. As a professional Society, there is much we can do – especially in supporting and mentoring students to build future capacity to tackle these issues. I will be seeking input and advice as to how we can further promote the Society, grow our membership and continue to support our early career scientists.

I would like to take this opportunity to thank Sabine Schreiber for her considerable efforts as President over the past two years. I also thank the departing regional members of the Executive for their contributions: Naomi Rae, Suzi Wild, Darren Ryder and Angus McGregor, as well as our departing newsletter editor, Emma Mac Kenzie – and welcome the following new members to the Executive: Darren Baldwin (Vice President), Michael Douglas (NT), Lien Sim (WA), Andrew Brooks (NSW) and Rebecca McIntyre (student rep), and Ross Thompson (newsletter editor). I look forward to working with you over the next two years.

Stuart Bunn
13 October 2006

ASL Annual General Meeting , Albury NSW, 28 Sept 2006

(p = proposer, s = seconded)

1. Adoption of agenda: accepted (p = R.Marchant, s = S. Schreiber)

2. Apologies: R.Tait, S.Lake, D.Ryder, D.Baldwin, A. McComb, N.Bond, B.Hart, B.Robson.

3. Acceptance of minutes from last AGM: p = M.Hart, s = R.Sinclair.

4. Matters arising: none.

5. President's report:

Thank you for coming to this year's AGM. AGMs can feel tedious, but they are the opportunity to set the direction of the society for the coming year – where the next conference is, becoming involved in the executive – the regional representatives are elected every year – or just getting a look at who your regional representative will be for the coming year. Also we award the ASL medal and the early career award at the annual general meeting. We also announce the student travel awards, but the prizes for student presentations are generally awarded at the dinner – and then you never know whether this is the year that the infamous door prize will be presented at the AGM.

First of all I would like to acknowledge and thank those members who have helped, once again, in the running of our society. In order to keep our society accessible and cheap we rely heavily on volunteers, not only for the executive, but also for the newsletter, the content of the web page and, most of all, the organisation of the conference. Without your input and contribution this would not happen.

ASL is our professional society. It is first and foremost about science and research – with a focus on the study of inland waters. Having said that, many of us, including myself now, are no longer active researchers; we work in management and policy agencies, in NGOs and as consultants. But I would suggest that rigorous science and research and its use in our areas of work remain fundamental to us, in particular to those of us actively involved in management of inland waters. I would like to digress here slightly to an excerpt from Leon Barmuta's talk at ASL last year, where he asked the question: *Decision-making in inland waters: too few data, poor analyses, wrong concepts or all of the above?*
And he concluded that we had the rigour behind this top loop available to us but that we were fuzzy at this bottom loop – but that this did not need to be so.

So we have our annual conference and in particular this year, we tried to hold it during one of the common university vacation weeks for Australia, and I would like to express my gratitude to both the Mildura lab and the Albury lab of the MDFRC for accommodating this request at quite a late stage in proceedings. So I am pleased to note

that we did have had a strong representation by students at our conference again this year, and I hope this continues: for next year remember that we do have travel awards available that you can apply for, but that you may need to think about this ahead of time as one of the conditions of the student travel awards is that you have been a member of ASL for at least 6 months – and together with the New Zealand Society we are already trying to think of ways to make it easier for students to get there – if you have ideas about this don't be backward in coming forward.

Other activities this year have included once again activities associated with us being member of FASTS – the Federation of Australian Scientific and Technological Societies- we now have Andrew Boulton representing us and the other aquatic societies on the board, and there are regular reports about FASTS in the newsletter. The key event is the, so far, annual Science-meets-Parliament extravaganza and this year Darren Ryder attended on our behalf. FASTS tends to change the format of this event a bit between years, but the basic aim behind it is to lobby for science with our federal politicians and if any of you ever get the opportunity to go: I strongly recommend it – it is fascinating to experience that environment and get an insight into what it takes to give good science profile in our community.

This has been my last term as president – I have learnt a lot, and enjoyed myself a lot too – there is nothing better than coming to the conference and seeing all my friends! Thank you! (accepted, p = R.Marchant, s= J.Chambers)

6. Secretary's report:
There is little to report from the 9 months since the last AGM. Two teleconferences were held (23 Feb, 11 July) and minutes published (or about to be published) in the newsletter. Consumer Affairs VIC seems happy with our annual statement even though it was late by a day last year. (accepted, p = S.Schreiber, s = T.Doeg)

7. Treasurer's report: Currently the society has 573 members: 2 honorary life members, 21 life members, 326 ordinary members, 136 student members, 25 ten year memberships and 63 three year memberships. The financial statements of the society for the last financial year are attached. No questions were raised about these statements. (accepted, p = S.Schreiber, s = R.Marchant).

8. Honorarium for treasurer: R.Marchant proposed an honorarium of $2500 should be paid to the treasurer for her services since the last AGM (s = A.Boulton). Accepted.

9. Auditor's report: this was read out by the treasurer.

10. Editor's report: no special publications have been issued recently and thus no report is available.

11. Web site report: the ASL web site is maintained by The Regional Institute (TRI) in NSW. The content of the web site, however, is the responsibility of the society. H.Shearer is currently the web administrator but a couple of other members are needed to form a

web group that could be responsible for the content of the site. It has been agreed by the executive that members on this group will receive a free conference registration. At present there seems no obvious alternative to TRI services. The society will continue to monitor TRI's performance in relation to our requirements and costs.

12. Newsletter editor's report: E.MacKenzie, the current editor, wishes to step down from this role. The newsletter editor should be a member of the web group because the newsletter is largely received electronically. Ross Thompson (Biology, Monash University) agreed to take on the editorship.

13. ASL medal report:

The current medal committee (R.Marchant, A.Boulton, P. de Deckker) announced that this year's winner was Associate Professor Jenny Davis from Murdoch University. Her citation is as follows:

Jenny Davis is best known for her research into the ecology of wetlands, especially those of south-western Australia and the impact of human activities (e.g., urbanisation, salinisation) on these ecosystems. She has published 27 refereed journal articles in the area of wetland research. However, she has other limnological strings to her bow. In particular one of her early and continuing interests is flow dynamics of rivers. Flow dynamics are a defining process in rivers and understanding them is crucial to understanding lotic ecology. Jenny has probably contributed more to the study of near-bed flows than any other Australian limnologist. Together with Leon Barmuta, she published one of the key papers in the field that has continued to be cited since its publication.

More recently she has begun investigating the impacts of secondary salinisation on wetlands. Jenny has been able to integrate her knowledge of wetland ecology and catchment processes to apply to the complex issue of the effects of saline drainage on waterways, a comparatively novel field compared to dryland salinity issues.

Jenny is also committed to improvements in the management of freshwater habitats in general. She engages willingly with environmental managers through industry-linked research grants, consultancies and service on government committees. In particular, she has contributed to initiatives that have made a difference to the conservation and management of Australian freshwaters. Examples include her role as Chair of the Ribbons of Blue Steering Committee, and a member of the National River Health Program Technical Advisory Committee and of the WA Conservation Commission.

In education and communication, Jenny has the capacity to pitch her messages with equal clarity to a wide audience from community members to established academics. In the academic arena, she has supervised 76 postgraduate research projects to successful completion. Her value as a female role model in science is reflected in the fact that 50 of these were women. Jenny encourages students to excel through her own contagious

enthusiasm and drive. This was recognized in 2004 when she won the Vice Chancellor's Award for excellence in postgraduate supervision at Murdoch University.

Jenny actively seeks opportunities to educate the wider community and has found novel ways of doing so. She often says "a picture is worth a thousand words" which was demonstrated in 2005 when her prize-winning photograph of a secondary salinised salt lake captured the imaginations not only of local but international audiences. This photo won the Ecosystems and Communities section of the second British Ecological Society photographic competition.

It should be no surprise therefore that the medal committee was unanimous in awarding the ASL medal to Jenny Davis for her distinguished and continuing contributions to limnology. Warm congratulations!

14. Early Career Excellence Award:

This year's award was made to Dr Fran Sheldon. Her citation is as follows:

First, we must record that this year's committee was composed of a past winner of the award (Dr Justin Brooks), a past ASL President (Dr Leon Barmuta) and was chaired by another past recipient (Dr Belinda Robson).

The ASL Early Career Excellence Award Subcommittee was unanimous in agreeing that this year's winner's early career exemplifies professional limnological excellence in their early career with substantial and tangible contributions to published research, river management, peer recognition and excellence in communication in limnology.

Dr Sheldon's PhD was completed at the University of Adelaide in 1994, supervised by A/Prof Keith Walker. It dealt with the ecology of snails in the lower Murray and was a masterful piece of work that revealed the link between changes in hydrological variability induced by river regulation and its impacts on native fauna of the river. It resulted in several widely cited papers and was the starting point of her career in lowland river ecology and management. While it is more than ten years since Dr Sheldon completed her PhD, she has been the primary carer for two children during this time, necessitating some career interruptions.

Regardless of this, her record is outstanding. Dr Sheldon has a career total of 30 refereed journal articles, 10 book chapters and 22 technical reports and conference publications. For example, one of her earliest papers (Puckridge, J.T., F. Sheldon , K.F. Walker and A.J. Boulton (1998) Flow variability and the ecology of large rivers, *Marine and Freshwater Research* 49**:** 55-72) was largely written by her and Jim Puckridge, and has become something of a citation classic (cited 118 times as at 15 April 2006) because of the clarity with which it identifies hydrological signatures of a number of world rivers and relates these to their ecology. Subsequently, she has continued with the theme of ecology and variable hydrology in Australian rivers, writing further high quality papers

on rivers such as the Barwon-Darling and exploring management approaches that are firmly rooted in rigorous ecology.

In addition to these scientific publications, Dr Sheldon has made a significant contribution to 'on ground' water resources management by producing widely used technical manuals for several inland rivers and contributing to many expert and advisory panels. Her contributions in both research and management have been recognised by invitations to address national and international conferences and workshops. Likewise, her genuine enthusiasm for science and management shines through in her written and oral contributions. Not only is she respected by her scientific peers, she has great credibility with managers and landowners along the inland rivers where she works and with the students she teaches at Griffith University.

Based on these achievements in research, river management and communication in limnology, the Subcommittee recommends that this year's ASL Early Career Excellence Award is awarded to Dr Fran Sheldon. Fran is invited to give a paper at next year's conference and to join the Award subcommittee for next year.

Submitted by Belinda Robson on behalf of the Panel

15. Bill William's Travel Award report: no award was made since the last AGM because not enough interest had accumulated in the account to enable funds to be withdrawn. Two applications were received (by R.Marchant) and both were encouraged to re-apply in the 2006-07 financial year when an award is likely to be made. (accepted, p = S.Schreiber, s = M.Reid).

16. Student Travel Award report: four students were given awards to attend this year's congress and present their work: A.Jensen (U. of Adelaide), A. Posselt (Griffith U.), J.Clapcott (U. of Tasmania) and R. McIntyre (UWA). (accepted, p = S.Schreiber , s = R.Sinclair).

17. Next year's congress (46th): This will take place on 3-7 Dec 2007 at Queenstown NZ and will be a joint conference with the NZ Freshwater Sciences Society. No detailed arrangements are available yet but will be publicized in the newsletter and on the web site. Supervisors should encourage students to apply for student travel awards. The deadline for applications will be July 15, 2007.

18. Future congresses: M.Lund has offered to run a congress in WA in 2008. Venues are about to be booked but no other details are currently available. In 2009 a tentative suggestion has been made that a congress be held in Qld. This has yet to be confirmed.

19. Election of the Executive:

The following members were nominated

President: S.Bunn (p = S.Schreiber, s = R.Marchant)

Vice President: D.Baldwin (p = R.Sinclair, s = M.Hart)
Treasurer: M.Hart (p = R.Marchant, s = S.Schreiber)
Secretary: R.Marchant (p = S.Schreiber, s = P.Suter)

Regional Representatives:
NSW: A.Brooks (p = I.Growns, s = T.Doeg)
Qld: S.Balcombe (p = S.Bunn, s = P.Pollard)
SA: B.Zampatti (p = S.Schreiber, s = A.Jensen)
Vic: B.Downes (p = S.Schreiber, s = R.Marchant)
WA: L.Sim (p = J.Davis, s = J.Chambers)
NT: M.Douglas (p = S.Bunn, s = A.Boulton)
ACT: M.Reid (p = S.Schreiber, s = J.Harris)
Tas: D.Warfe (p =S.Schreiber, s = J.Clapcott)

Student representative:
Rebecca McIntyre (p= J Chambers, s= S.Schreiber)

And all were elected unopposed.

20.Election of the Auditor : M.Hart proposed that Coster Galgut Pty Ltd be elected for 2006-07 financial year. (s = R.Marchant).
21. Other business:

(a) A.Jensen suggested that information from the congress should be made more widely available. Currently abstracts are printed but they could be put on the web page. M.Brock suggested contacting individual authors to get more information. D.McGlashan warned that the format in which abstracts are published should be kept in mind because certain types of format may make subsequent publication of a paper difficult.

(b) Bill Williams Travel Award: this award will generally be offered once every two years. This should be stated on the web page.

(c) T.Doeg suggested that carbon neutral conferences be considered in future years. The new executive will explore how to offset greenhouse gases produced during the conference. Possibly sponsors could help with this initiative. Some other societies are attempting to run such carbon neutral conferences.

(d) Web group: D.McGlashan offered to help with the web site.

(e) Conference web site: it is the responsibility of the conference organizing committee to keep the ASL web site up to date with conference details.

Meeting finished at 5pm.

ASL EXECUTIVE

Brenton Zampatti – South Australian Regional Executive

Firstly a bit about my limno past and present. I completed an Honours Degree in Environmental Biology at the University of Adelaide in 1993 then moved to Melbourne to a commence a job as a biologist with the State Water Laboratories (which was later to become Water Ecoscience). In 1997 I took up a position as a fish biologist at the Arthur Rylah Institute where I remained until 2003 working on a range of fish ecology projects north and south of the Great Dividing Range. I'm now back in South Australia working as a research scientist in the Inland Waters Program at the South Australian Research and Development Institute (SARDI). I am involved in a number of fish ecology projects ranging from the MDBC 'Hume to the Sea' fish passage project through to more specific research projects investigating the ecology of fishes in the Chowilla Anabranch system and the Coorong and Lower Lakes.

I have found ASL an excellent organisation for fostering links with colleagues across a broad range of limnological professions. In fact, a great positive of ASL, and the conferences in particular, is that you get exposed to a wide range of practitioners, from bug pickers to botanists to geomorphologists. I feel this makes for a well-rounded limnological experience and hopefully stimulates attendees at conferences to consider the bigger picture.

The social side of ASL conferences is also an important aspect and drawcard. In these days of competitive funding, and the need for multi disciplinary approaches, there is nothing like having a few beers at an ASL social event and whipping up that next million dollar funding idea!

We haven't had many gatherings of ASLers in SA of late, probably because Angus MacGregor (ASL student rep) and I are forever in the field. Nevertheless, I'd be interested in speaking to any of the SA crew at the Albury conference to discuss the potential for future state-based get togethers. Looking forward to catching up at the 45th Annual Congress in Albury. Cheers, Brenton

ASL Teleconference Minutes

ASL Executive teleconference, 11 July 2006

Present: S.Schreiber, M.Hart, R.Marchant, D.Warfe, S.Bunn, H.Balcombe, S.Wild, B.Zampatti.

Apologies: A.MacGregor, D.Ryder, B.Downes, A.Boulton, N.Rea

1. Matters arising from last executive meeting:
(a) S.Schreiber reminded the meeting that more biographies of the executive members are needed for the newsletter. S.Wild and B.Zampatti volunteered to write biographies.
(b) ASL medal and Early Career Award: two nominations have been received for both these awards. Winners will be announced at the AGM in September.
(c) 2006 Congress: organisation of this meeting is going well and is mostly under control.
(d) Future congresses: the 2007 Congress will be held jointly with the NZ Freshwater Sciences Society who are organising this meeting in Queenstown NZ. This meeting will be held in early December 2007. No details are yet available for the 2008 Congress to be held in WA, but S.Wild (WA rep) will provide information for the next executive meeting. No proposals have been received for the congress in 2009 but Brisbane's Convention Centre was suggested as a possibility.

2. Student awards: the MFR prize has previously been awarded for the best interdisciplinary poster. The editor of MFR (D.McGalshan) has indicated that he feels confining the award to a poster does not give it enough scope and he would like to enlarge the prize to include all student presentations (talks and posters). The executive felt this was justified given the fact that sometimes only small numbers of posters are presented at congresses. The interdisciplinary nature of the presentation should be a fundamental criterion for allocating this award. It became clear during the discussion that no formal guidelines have been developed for prizes given by sponsors and potentially embarrassing situations can occur where the sponsored prizes are worth more than the ASL prizes, which the executive agreed should be seen as the pre-eminent student awards. D. Warfe together with A.Boulton and D.Ryder have offered to draw up some guidelines.

3. ASL website: the site appears to be working well at present and S.Schreiber and M.Hart have established a working relationship with the people at The Regional Institute in NSW (TRI). It was generally agreed that it would not be wise to abandon TRI at this stage and it was felt that the quote from TRI for site

maintenance this year ($2640 for 06-07) was good value for money. No other potential providers of website services have been identified and the feedback from other societies is that there are no obviously successful candidates out there.

4. Web content: S.Schreiber indicated that this has not been fully developed. For instance the membership directory should be available to members via the website. The web working group has yet to be formed but such a group could maintain various sections of the website.

5. Next vice-president: S.Bunn will raise interest for this position among the membership to ensure a smooth transition to a new executive at the next AGM.

6. New executive members: any executive member standing down at the next AGM should try to elicit interest from their state members in standing for the executive. This process can probably be facilitated by getting access to the bulk email function on the website.

7. Next newsletter: S.Schreiber reminded state members that the newsletter needs input from each of the states for the scuttlebutt section. It is hoped to put the abstracts for papers at the forthcoming ASL congress in September (or at least links to them) in the next newsletter.

8. Emeritus members: this category of membership was suggested some time ago. The executive felt that it should be reserved for members with 30 plus years of membership and would probably only apply to those in this group who have actually retired from work. A list of those who have been members for >30 years indicated that perhaps 3-4 might currently take up emeritus membership. Probably it will need to be assessed on a case by case basis. S.Schreiber and R.Marchant will draw up some rules about this level of membership.

Other business:
(a) ASL has been invited to make a submission to the inquiry into the Governance of WA Water Resources. This invitation will be passed to WA members (via S.Wild) as they are in the best position to repond.

(b) R.Marchant has received two applications for funding from the Bill Williams Travel Scholarship (BWTS) fund. The BWTS committee (R.Marchant, M.Hart, S.Schreiber) reviewed the current state of the fund and concluded that not enough interest had accumulated since the last award was made (Dec 2005). The committee thus decided to postpone making an award until next financial year (07-08). The two applicants have been encouraged to re-apply for travel in 07-08.

EDITOR'S NOTE

Material for publication in the Volume 44 # 4 newsletter (December Issue) is due by

Friday 8 December, 2006.

All articles should be forwarded, if possible, as unformatted text on a disk or via email.

ASL Home Page - http://www.asl.org.au/

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Membership Information and contact details of the Regional Executive Members can be found at the back of this Newsletter.

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ANNOUNCEMENTS

Sam Lake Awarded Gold Medal from Ecological Society of Australia

We were all delighted to hear that Prof Sam Lake (Monash University) had been awarded the Gold Medal from the Ecological Society of Australia, announced at the Annual Conference held in Wellington. If stream ecology were an Olympic sport (and perhaps it should be!), Sam would be one of Australia's most decorated performers, having also won the **Australian Society for Limnology Medal** and the **Award of Excellence** from the **North American Benthological Society**. All of these awards have recognised the sustained high quality science, active advocacy, and ecological enthusiasm that Sam has bought to the field of ecology. It also is a 'win' for ASL as, in Sam's own words (pun and all), "it may serve to bring freshwater ecology into the mainstream of Oz ecology".

A very warm congratulations, Sam, on a well-deserved award.

POSTCARD

Crikey, Cars and Community!

Crikey! Who would have thought it? Killed by a stingray. If, like me, you didn't really care for the loud-mouth ockerish yobbo presentation ..... if, like Germaine Greer, you objected to the cruel handling of animals in order to get the "right" reaction for a particular piece of film ..... if, like many, you were put off by the constant self promotion. Well, even so, you do have to admit that Steve Irwin has done more for getting kids interested in animals and conservation (not only in Australia) than any-one I can think of for a while.

Cars! TV alert: "Top Gear", SBS, Monday 7:30 pm. Yes, it's a show about cars, particularly fast cars. Yes, it's hosted by three middle aged blokes who just don't have the sophistication and style one would normally associate with flashy cars. But they do some wonderful road tests. Like racing a fast car against public transport - from England to the Swiss Alps! Two of the three hosts took a bus from the TV studio to the train station, a train to Heathrow airport, a flight to the south of France, a train to Switzerland and a bus to a ski village in the Swiss Alps. The other guy drove a fast flashy expensive car (you can tell my knowledge of cars - I can't tell a Porsche V8 249i from a Lamborghini V12 A377C series) all the way from the TV studio to the same village - and beat them by 5 minutes!

In another test, they deemed testing some supposed high-tech but ordinary middle-of-the-road cars for commoners below them, so they got their mums to do it. After all, they were the target customers for the cars. First test - unlock the car, open the door, get in, adjust the seat, change the radio station to BBC1, adjust the mirrors, start the engine and drive off. Twenty minutes later .....

Community! A little over 12 months ago, my partner became involved in the Watermark project run by the Victorian Women's Trust. She gathered together 6 of her friends in our street and had a few meetings here at our house. Watermark provided information on water use, wastage and policy to drive discussions at each of the meetings. There were about 230 such groups around Victoria. Feedback from the discussions was given to Watermark, who are going to use it to develop a Water Charter that might help Governments reduce water use and wastage.

At the end of the meetings, our group decided to take it the next step and see if we could actually reduce our water use. We were all pretty aware of our own use and had done some small things to reduce use, but there was obviously more that could be done.. And we were sure that there were a few other friends in the street who might be interested. We figured we could get about 20 houses to have water audits done and see what things we could do.

So we approached our neighbours in the street to see if they were interested. The level of awareness of the impending water crisis in the area was surprisingly high, and the most common reactions were along the lines of "I was thinking of doing this, but haven't got around to it", or "I would like to, but I think the costs will be prohibitive", or "I don't know where to start".

Within 2 weeks, we had the involvement of 50 houses in the local area! We approached a local plumber who offered generous discounts on audits and things like flow reduction devices, tanks and plumbing works. At the moment, we are all having water audits done and we figure that, as a group, we can save about 3 ML of water a year. It's not much for a single street, but have a look at a street map of Melbourne, start counting the number of streets, and start doing some simple sums .....

Rebates for water saving measures are often touted as the major incentive for households to take up water saving measures. Since 2003, 130,000 rebates have been approved throughout Victoria. Similarly, in 2004/5, 15,040 rebates were made for water savings in the zone serviced by our local water retailer. Impressive? Well, that's about 1% of the population each year. So we should have all the population signed up in ..... about 100

years. Don't know what the take up in other states or cities is, but it's probably similar.

Here in Melbourne, with climate change, the amount of water available in the future will reduce by 8% by 2020 and up to 20% by 2050, while the annual demand forecasts suggest an increase of 10 Gigalitres per year between 2006 and 2011. Without substantial reductions in demand, use will overtake supply by about 2015.

We need to rapidly increase the involvement of individuals within urban communities in saving water – the debate about building new dams is heating up with State elections in the near future. New dams are not the answer (for a variety of reasons). Getting whole streets together may be a way to increase the involvement – all it needs is for a few neighbours to get together and start the ball rolling.

Will report more on the progress later. If any-one wants advice on how to do it, let me know.

A BIT OF FUN ~ KEEP THOSE LETTERS COMING !!

Ask Onmil all the tricky limnological etiquette questions you really want answered!!

Dear Onmil
Help, I'm confused! I have heard about icon sites and species. I thought
icons were something you worshipped.
P. E. Plain

Dear P. E.

And your problem is?
It's quite simple really, P. E. If we don't elevate some sites and species to holy status, they will go under, degrade, disappear, become extinct or, worst of all, not get funding. It's politically expedient worship.....but for the best of motives.

And what is wrong, after all, with worshipping Murray cod or river red gums? Or even yabbies*? Pagans have worshipped natural icons since time immemorial. It takes tree-hugging to new heights, that's all. Mind you, fish-hugging is less likely to catch on (all that mucus!!!). Although I believe there's some weirdo fishing personality who kisses fish (pervert!)...on film (double pervert!). And I don't believe he asks their permission first, either! Sounds like fish harassment to me.....must take it up with the anti-discrimination ombudsperson.....Otherwise, anyone might get the idea they can kiss and cuddle species without permission. Or even conduct scientific studies...hmm, electro-fishing doesn't look too good, does it?

Yours sincerely

Onmil

* Long-suffering readers would have noticed a certain fondness for yabbies in my advice. I swear I rarely touch them, and I certainly respect them in the morning...

Ask Onmil
All the tricky limnological etiquette questions you really want answered.....

INFORMATION FROM AND FOR MEMBERS

Aquatic cluster 'minutes' from FASTS meeting 10-11 August 2006, Sydney

The full minutes of this meeting will be circulated from FASTS but I have taken some brief notes of issues that I thought might be of specific interest to members of the aquatic cluster.

1. I mentioned concerns about perceived risk to scientific research at the Australian Museum due to proposed merger of the AM with the Powerhouse Museum. This was discussed after a circulation of a press release from Bradley Smith on 9th August, and there was some comment that this may also be an opportunity for raised profiles and improved funding for research. Nonetheless, the importance of aquatic taxonomic and other research at the AM was fully acknowledged and should not be put at risk.

2. Looking for suggestions for topics for "Science meets Parliament" for 2007. Please forward ideas for topics to me by end of September to coordinate.

3. One of the comments from other cluster representatives was the loss of senior members in some societies and it was thought that they might be too busy or forgetting to renew their membership. Making it easy for these people to remain members was seen as a priority and direct debiting has been very successful for some societies. Maybe this option could be useful for some societies in our cluster? There was also discussion about whether practitioners (as distinct from students/academics) find it useful to be members of scientific societies – what benefits do *your* society bring to practitioners and is there more you may want to do for them? Is it an issue?

4. Would your societies like to hear from FASTS at a society meeting/AGM to find out more about what they are/could be doing? FASTS President Tom Spurling has spoken to some of the larger societies and councils but is also keen to talk with other constituent societies in the aquatic cluster. Let me know and if you do want to take advantage of this opportunity, what would be the forum, who would attend, and what might be some of the issues you wish to discuss?

5. FASTS recently commissioned a paper to highlight the need for re-aligning public policies towards science and innovation in a way that improves governments' abilities to use publicly supported research and experiment development (R&D) to handle risks and uncertainties with which markets cannot effectively cope. This 40-odd page paper contains some tightly argued theory but for aquatic cluster members, I think the key issue is that the framework goes beyond simply arguing for science and innovation but adds in 'preparedness' as a specific policy aspect. On behalf of the aquatic cluster, I proposed some examples where supporting research tackling 'preparedness' strategies would be beneficial for so-called 'uncertain events' – these included drought and coral bleaching where the events may be predictable but their specific outcomes/effects on markets might not be as certain. R&D should not only be reactive to a situation (such as the above) but should include preparation for unpredictable events – and this should be funded and supported as any other form of R&D. Positive repercussions for taxonomy and long-term ecological research sites can be immediately seen. If any members want to forward me relevant examples, I can send these on to Bradley Smith from our cluster.

6. FASTS has revised and reorganized its set of policy statements and these will go up on its website shortly. To me, they are all relevant and I don't think our societies would take issue with any of them. One, Policy 6.3, specifically mentions societies: "There is a need for government and professional scientific societies to work together to foster international engagement through research linkage programmes, hosting international conferences and personnel exchange and training schemes" and I reproduce it here in case it relates to any current or planned initiatives of societies in our cluster.

Andrew Boulton

Aquatic Sciences

Water was on the agenda at the recent Council of Australian Government's meeting, where the National Water Commission reported on the progress and challenges of the National Water Initiative reforms. The Commission's report noted significant progress in national water accounting standards and nationally compatible registers for water access entitlements, suggesting that these advances would not be occurring in the absence of the NWI. However, the Commission also advised that there remain major risks to Australia's water resources through growing demand and declining reliability of supply. Some solutions don't seem palatable (e.g., the recent vote on drinking recycled water in Toowoomba), prompting feasibility studies into engineering solutions such as the $7.5 billion water pipeline from the Burdekin Basin to Brisbane. The Australian Society for Limnology has its annual conference coming up in September in Albury - more news on the outcome of that in the next report. Prof. Stuart Bunn (Griffith University) will become President for two years. The Australasian Society for Phycology and Aquatic Botany (ASPAB) is promoting the Sixth Australian Algal workshop at the University of Wollongong, and this includes a presentation about NATA accreditation for algal identification and enumeration. Other welcome news from ASPAB was that Dr Scoresby Shepherd (past Exec member and a Senior Research Fellow at SARDI Aquatic Sciences) has been made an Officer (AO) in the General Division of the Order of Australia for service to marine science, particularly in the fields of abalone biology and ecology through research, education and international collaboration, and to the conservation of coastal areas.

The joint conference of the Australian Marine Sciences Association and the Society for Wetland Scientists, themed "Catchment to Coast" was held on 9-13th July 2006 in Cairns. As it seemed to rain constantly, there was very good attendance at the papers and it was considered a most successful conference for drawing together the aquatic linkages of catchments and coastal ecosystems. International representation was excellent. Dr Gina Newton has finished her two years as President of AMSA and we congratulate Dr Fred Wells (WA Department of Fisheries) who will assume that role. The Australian Industry Minister, Ian Macfarlane, launched four "how to" guides which have been developed by Seafood Services Australia to better trace Australian seafood from 'water to waiter' and assist the industry in areas like packaging, transport and biosecurity. Seafood is Australia's fourth most valuable food-based primary industry with a value of more than $2 billion a year and employing more than 80,000 people.

Andrew Boulton

Ross Thompson has taken up a lecturing position at Monash University, joining Sam Lake, Paul Reich and Nick Bond in the Aquatic Ecology Research Laboratory. Ross' research interests include food web ecology and ecosystem ecology, in freshwater (lakes, ponds and streams) and marine systems.

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The Closs Lab at the University of Otago, New Zealand

Dr Gerry Closs is supervising a number of aquatic ecology-related projects at the University of Otago in New Zealand. Andy Hicks is beginning a PhD investigating facultative amphidromy in whitebait (Galaxias sp.) and bully (Gobiomorphus sp.) species of New Zealand. Tobias Bickel has submitted his PhD thesis exploring the ecological role of an introduced macrophyte, Lagarosiphon major, in the littoral of Lake Dunstan. Shannan Crow is finishing his PhD research examining niche partitioning and potential character displacement in recently identified species of the Galaxias vulgaris complex. Esben Kristensen has submitted his PhD thesis investigating population dynamics and migrations of brown trout (Salmo trutta) using trace metal signatures in otoliths and eggs. Ricky Olley is finishing his masters research using otolith microchemistry to identify migration patterns of brown trout (S. trutta) within the Motueka catchment. Adrian Lill is beginning his PhD exploring the ecology and food web structure of small and intermittent estuaries along the east coast of the South Island. Finally, Dr Gerry Closs is continuing his own research on population dynamics and connectivity of fishes, currently focusing on smelt (Retropinna retropinna).

If interested in more details, enquiries can be direct to Andy, ashicks@gmail.com.

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SCUTTLEBUTT, RUMOUR AND PRATTLE

AUSTRALIAN RIVERS INSTITUTE, GRIFFITH UNIVERSITY, BRISBANE

The Centre for Riverine Landscapes (Nathan campus) is no longer in existence having joined forces with Center for Aquatic Processes and Pollution (Gold Coast campus) to become Australian Rivers Institute (ARI). ARI was officially launched on Monday September 4 by the Queensland Minister for Education Rod Welford at the Brisbane Riversymposium. There will be a combined total of more than than 120 water scientists and research students in ARI with a focus on ecologically sustainable catchment, coastal and river management research. A key aim of ARI research will be to address how governments and society can meet growing demand without degrading the essential goods and services that natural river and coastal ecosystems provide. ARI will also examine how to sustainably manage coastal zones in the face of increasing urbanization and changes in quantity and quality of water from coastal catchments. The creation of the $18 million state of the art Queensland Smart Water Research Facility at Griffith's Gold Coast campus will enhance the research undertaken by ARI scientists and students. The Facility, funded by the Queensland Government in conjunction with the Gold Coast City Council and Griffith, will facilitate research into sustainable water supplies, safeguarding water quality and exploring alternative water sources including recycled and desalinated water. ARI, through Griffith, is also a lead partner in the $11 million Tropical Rivers and Coastal Knowledge (TRACK) national research hub. Recently announced by Federal Environment Minister Ian Campbell, the hub will focus on how rivers and coastal areas in the tropical north sustain important natural assets and ecosystems.

Angela Arthington attended the third annual meeting of the freshwater BIODIVERSITY Scientific Steering Committee and Crosscutting Network held in Paris, 13-15 June 2006. The meeting discussed ongoing and future activities. A series of scientific synthesis papers will be published by the committee on the following topics: valuation of freshwater biodiversity, microbial biodiversity, freshwater biodiversity and human health, relationships between aquaculture and agriculture. Angela is leading a paper on environmental flows as a collaborative activity of DIVERSITAS and the Global Water System Project (GWSP). Diana Ly's honours project on fish condition in the Moonie River system is going well. Diana has just completed her final field trip and now "only" has to dry a few hundred or "so" more fish, extract a bit more fat and write it up.

Adam Kereszy's PhD project is coming along well with a few field trips to Cooper Creek under his belt and another one in conjuction with Ryan Woods and Joel Huey two ARI Phd students examining aspects of fish genetics across landscape scales. Adam's PhD topic "Recruitment of fish in Cooper Creek, Queensland" employs small-meshed netting techniques across a range of waterholes at a large (ie: sub-catchment) scale in order to gain insight into the spatial and temporal patterns of fish recruitment in a river system characterized by a highly erratic flow regime.

Another ARI PhD student, Bill Macfarlane, is studying the ecological interactions between freshwater catfish (Tandanus tandanus) and carp (Cyprinus carpio). Bill is preparing to deploy an acoustic fish tracking system to map the spatial and temporal distributions of tagged fish within a large pool in the Albert River catchment. Results of the work will provide detailed quantitative measurements of micro-habitat use by catfish and carp within a flowing stream in south east Queensland. For further details contact Bill on Bill.Macfarlane@dpi.qld.gov.au.

The project "In-stream and riparian zone nitrogen dynamics" led by ARI as part of the River Contaminants program of LWA and the MDBC has recently finished. The project was a collaborative effort of researchers from Griffith University, Monash University, The University of Western Australia, and Queensland Natural Resources, Mines and Water. The overall aim of the project was to increase our understanding of nitrogen cycling processes in streams and riparian zones to improve water quality and ecosystem health. The project involved multiple sites across three distinct biogeographic regions: southeast Queensland (SEQ), southern Victoria (VIC) and southwestern Australia (WA).

The findings from this project and two Cooperative Research Centre (CRC)-funded projects (Nitrogen and carbon dynamics in riparian buffer zones and Modelling and Managing nitrogen in riparian zones to improve water quality jointly funded by the CRC for Coastal Zone, Estuary and Waterway Management and the CRC for Catchment Hydrology) were used to propose guidelines for the management of riparian lands with a focus on increasing the potential for denitrification and thereby reducing nitrogen loads entering surface water bodies. The two main guidelines are 1) Maintain and/or increase organic carbon levels in riparian soils; and 2) Identify riparian areas with the greatest potential to support denitrification to target for protection or rehabilitation. While these guidelines can enhance nitrogen removal by riparian zones, it should be emphasized that overall nutrient management should aim to minimise off-site movement at the source. The guidelines and further information can be found in the following publications: H. Hunter, C. Fellows, D. Rassam, R. DeHayr, D. Pagendam, C. Conway, P. Bloesch, and N. Beard. 2006. Managing riparian lands to improve water quality: optimising nitrate removal via denitrification. Technical report. Cooperative Research Centre for

Coastal Zone, Estuary and Waterway Management, Indooroopilly. ISBN 1 921017 18 X. 23 pages.
http://www.coastal.crc.org.au/pdf/TechnicalReports/57riparian_guidelines.pdf

New riparian management guidelines target sub-surface nitrate—a 7 page booklet summarising the technical report. http://www.coastal.crc.org.au/pdf/Riparian_Booklet.pdf

For more information, contact:
Christy Fellows (c.fellows@griffith.edu.au), 07 3735 3840

Stephen (Harry) Balcombe

AUSTRALIAN CENTRE FOR TROPICAL FRESHWATER RESEARCH, JAMES COOK UNIVERSITY, TOWNSVILLE

ACTFR recently descended upon the joint AMSA-SWS Catchments to Coast Conference in Cairns with 13 attendees giving a total of 12 oral presentations, leading field trips and being part of the organizing committee. Things were very quiet back in the main office that week.

Colton Perna and **Mick Pusey** recently wrapped up a survey of the freshwater fishes of the Lynd River catchment and adjoining parts of the Mitchell catchment in north Queensland. This included collecting three specimens of lake grunter, which extends their known geographic range from one lagoon to two, and doubles the number of individuals previously known from Australia. More work searching for this elusive fish is planned for the near future. A September-October field trip is planned for the Norman catchment in the Gulf of Carpentaria, another catchment never before formally surveyed for freshwater fish.

Jon Brodie, John Faithful, Barry Butler, Zoe Bainbridge, Stephen Lewis, Dom Loong, Niall Connolly and **Richard Pearson** are busily wrapping up a series of final reports and products for the Catchment to Reef CRC program, a joint initiative of the Rainforest and Reef CRC's.

Ally Lankester has had her Masters thesis on grazier motivations and perceptions towards riparian management in the upper Burdekin rangelands accepted, and is now working with ACTFR on various social research projects.

ACTFR welcomes **Alan Webb** to our team. Alan did his Masters on the ecology of the invasive fish – tilapia and his PhD on patterns and factors affecting spread of exotic fishes in Australia. Alan is working on a three-year project looking at distribution, ecology, impact and control of exotic fishes in NE Queensland, a project led by **Damien Burrows.**

Damien Burrows

HAPPENINGS AT THE WATER RESEARCH LABORATORY, UNIVERSITY OF CANBERRA

The water research lab at University of Canberra has been a little empty of late thanks to the full and important travel schedules of many members…The great exodus began at the end of June when seven members – fearless leader Thoms, Scott 'ice' Rayburg, Mike 'chopper' Reid, Mark 'maxie' Southwell, Rob 'noddy' Cossart, Munique 'spider' Webb and Erin 'bolshie' Lenon – escaped to Dundee in Scotland to present papers at the International Association for Hydrological Sciences conference on Sediment Dynamics and the Hydromorphology of Fluvial Systems.

Water Research Lab and friends eating fish 'n chips with deep fried Mars Bars for dessert in Edinburgh: (L to R: Cam, Rob, Erin, Lorna, Munique, Phoebe, Martin and Michael)

Waiting patiently for the free food and booze at Dundee Civic Reception (L to R: Michael, Maxie, Rob, Erin, Phoebe, Chanelle and Munique

Oh yeah, that's why we came here: Erin Lenon presents results from the Narran Ecosystem Project

The contingent straggled back to Canberra over the course of the next few weeks (except for chopper who slipped the net and spent the next 5 weeks on a study tour of France and Spain with daughter Phoebe.... "Sí, eso es un río encantador, más cerveza por favor ..."). Meanwhile, the remaining hardworking members, Johanna 'frenchie' Boulos, Victor 'mower' Hughes, Nolani 'blue' McColl, Desley 'massey' Ferguson, Nick 'poirot' David and Alie 'alie' Cowood kept the flag flying with their work on hydrological persistence of billabongs, snags in the Murray, selling the word on the Narran Ecosystem Project, stopping the house of cards falling, wrestling Arcview, and organising Martin's floodplain gabfest in September, respectively. A second wave of departures swept Martin and Maxie back to the UK in early August where they were lucky enough to experience the sheer joy and thrills of Heathrow following a terrorist alert. They ended up at the 10th International Symposium on Regulated Streams/2nd International Symposium on Wood in World Rivers in Stirling, Scotland wearing nothing but their British Airways-issued nightgowns. Fortunately, most others at the conference were in the same boat, so nothing more was said. To their surprise, they found Mike was at Stirling too, and made sure he didn't escape a second time when all returned to Canberra – in Martin's case, via Sweden, where he and partner Di feasted on the old Viking staple of garlic icecream – he still doesn't understand why no one goes into his office anymore.

Things are back to normal now – at least they will be until September 21st when the lab hosts the Fundamentals and Frontiers of Floodplain River Research and Management Workshop starring James Thorp, Klement Tockner, Peter Cullen, Martin Thoms, Tony McLeod, Neil Saintilan, Jon Marshall, John Tibby, Mike Reid and Ben Gawne.

Mike Reid

THE UNIVERSITY OF WESTERN AUSTRALIA

CWR to develop egg/larvae module with the water quality model CAEDYM

The Centre for Water Research at The University of Western Australia was recently awarded a project to develop a new module for egg and larvae dynamics for the Wall-eye fish population of Lake Erie. The Wall-eye fish population of Lake Erie supports a large commercial and recreational fishing industry and it is important to be able to predict hatching success in a given year to support sustainable fishery management.

The new module will be developed within the Centre's 3D Computational Aquatic Ecosystem Dynamics Model (CAEDYM). The Computational Aquatic Ecosystem Dynamics Model (CAEDYM) is an aquatic ecological model that may be run independently or coupled with hydrodynamic models DYRESM or ELCOM. CAEDYM consists of a series of mathematical equations representing the major biogeochemical processes influencing water quality. At its most basic, CAEDYM is a set of library subroutines that contain process descriptions for primary production, secondary production, nutrient and metal cycling, and oxygen dynamics and the movement of sediment.

Matt Hipsey at CWR will develop algorithms for fish egg deposition, incubation and mortality and larval hatching, vertical migration and survival in collaboration with researchers from Michigan State University and University of Toronto. Once completed the 3D model will be used to support a more sustainable fishing industry.

FORTHCOMING CONFERENCES / WORKSHOPS

ENTO '07 - Royal Entomological Society Symposium on Aquatic Insects

Aquatic Insects: challenges to populations, and RES Annual National Meeting. 16-18 July 2007, Edinburgh, UK.

This International Symposium will have a diverse and exciting range of invited speakers covering topics including life-history adaptation, adaptations to extreme conditions, foraging, orientation and dispersal. The meeting will run over three days, each day consisting of a plenary Symposium session in the morning, followed by open sessions in the afternoons. Oral or poster presentations on any entomological topic are invited and all will be considered.

Visit the web site http://www.ento07.org.uk/ for more information and to register for information updates.

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Fifth Large Branchiopod Symposium

To be held at Acharya Nagarjuna University in Nagarjuna Nagar, Andhra Prasdesh, India, 16-20 September, 2007. For details contact Prof Durga Prasad: profmkdprasad@yahoo.com.
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Australian and New Zealand Geomorphology Group

Australasian Rivers Workshop: New Frontiers in River Research

6th to 8th February 2007, Canberra and NSW South Coast

www.anzgg.org or email jacky.croke@sciro.au

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ASLO 2007 - Aquatic Sciences Meeting

February 4-9, 2007, Santa Fe, New Mexico

The American Society of Limnology and Oceanography invites the submission of abstracts for oral and poster presentations! Celebrate ASLO's return to Santa Fe, New Mexico, by getting outside of the box for some great science and some engaging and unique events at the ASLO 2007 Aquatic Science Meeting to be held February 4-9, 2007. Register and book your travel early! In order to have your abstract considered for acceptance, you must submit before the abstract deadline of October 3, 2006. On-line submission is highly preferred at http://www.aslo.org/santafe2007

If you are not a member of ASLO, we invite you to join. By doing so, not only will you receive the benefits of this society but also be able to take advantage of the significantly reduced registration fee for members. Please visit the ASLO web site to learn more about becoming a member at http://www.aslo.org/

Debbie Bronk & Jim Elser, Co-organizers, ASLO Santa Fe 2007
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Modelling Patterns and Dynamics of Species Occurrence Workshop

Melbourne: 28-30 June 2006
Brisbane: 3-5 July 2006

Instructor: Darryl MacKenzie, Proteus Wildlife Research Consultants

The presence or absence of a species across a set of landscape units is a fundamental concept used widely in ecology. An important sampling issue, however, is that a species may not always be detected when present at a landscape unit. This will result in "false absences" causing parameter estimates to be biased if unaccounted for, possibly leading to misleading results and conclusions, even with moderate levels of imperfect detection.

This workshop will cover many of the latest methods for modelling patterns and dynamics of species occurrence in a landscape while accounting for the imperfect detection of the species. Participants will be introduced to available software through worked examples, and there will be special emphasis on aspects of study design. While primarily aimed at the beginner and intermediate level, more experienced researchers will also benefit from attending.

Participants will receive a complimentary copy of the recently published book, 'Occupancy estimation and modeling: inferring patterns and dynamics of species occurrence.'

The Melbourne workshop will be hosted by the University of Melbourne. Visit http://www.scc.ms.unimelb.edu.au/mpdso.html for registration details.

A venue for the Brisbane workshop is still to be confirmed. Register you interest by emailing darryl@proteus.co.nz.

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The 6th International Symposium on Ecohydraulics will be held in Christchurch, New Zealand. More than 350 professionals working in hydraulic and environmental research and applications are expected to attend this symposium.

The technical program will comprise plenary sessions, technical papers presented in the traditional format, a poster display session, and discussion forums of selected technical papers.

Visit the website http://www.conference.co.nz/ecohydraulics2007 to obtain details and registration.

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Molluscs 2006
Molluscs in Research, Conservation and the Economy

Triennial meeting of the Malacological Society of Australasia

6 - 8 December 2006, University of Wollongong, NSW plus two day pre and post conference workshops (4-5th Dec, 9-10 Dec)

The objective of this meeting is to bring together students, established researchers, naturalists and members of government and NGO agencies that have an interest in molluscs. The meeting will focus on current research involving molluscs in the Australasian area.

Molluscs are the second largest animal phylum and many are ecologically and economically important. They are dominant organisms in marine environments and have suffered more human-induced extinctions on land and in freshwaters than seen in all tetrapod vertebrates.

Themes:

- Applied studies (aquaculture, fisheries, parasitology, invasive species)
- Conservation and ecology (including endangered species, indicator species, molluscs in experimental ecology, tracking environmental changes)
- Systematics (including taxonomy, phylogeny, evolution, faunistics, biogeography)
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- Genetics and development (population genetics, evolution-development, larval development)

Venue: McKinnon Centre, University of Wollongong.
Wollongong is about 1.5 hrs by road or rail south of Sydney. Details on other options for travel to Wollongong from Sydney provided on the conference website: www.uow.edu.au/conferences/MOLLUSCS06/

Registration: on line at www.uow.edu.au/conferences/MOLLUSCS06/

Preconference Workshop
Dr Mark Norman and Dr Mandy Reid - cephalopod identification and biology (two days 4th - 5th Dec)
Postconference Workshop
Dr John Stanisic and Mr Michael Shea - land snails their identification, diversity and conservation (two days 9th - 10th Dec)

For more information contact:
Mark Norman: mnorman@museum.vic.gov.au or
Winston Ponder: wponder@bigpond.net.au

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ASL VOLUNTEERS

The following members have volunteered to speak as experts on behalf of the ASL. If you wish to be included on the list please contact:
Dr R.Marchant (ASL secretary), email: rmarch@mov.vic.gov.au

Prof A. Arthington: in stream flows, ecology of exotic fishes, conservation of rare fishes. Centre for Catchment & Instream Res, Griffith University, Natham Qld, 4111. Phone (07)3875 7403, Fax: (07)3875 7615, email: a.arthington@mailbox.gu.edu.au

A/Prof P. Boon: bacteriological issues, wetlands. Environmental Management, Victoria University of Tech., PO Box 14428 MMC, Vic. 3000. Phone (03)9365 2214, Fax (03)9365 2465, email: paul.boon@vu.edu.au

Dr A. Boulton: intermittent streams, hyporheic zones, aquatic invertebrate ecology. Ecosystem Management, University of New England, Armidale, NSW 2351. Phone (02)6773 3760, Fax (02)6773 2769, email: aboulton@une.edu.au

Dr K.Bowmer: pesticides - fate and ecological impact, aquatic plant management. Charles Sturt University, PO Box 588, Wagga Wagga, NSW 2678. Phone (02)6933 2221, Fax (02)6933 2060, email: kbowmer@csu.edu.au

Dr M. Brock: temporary wetlands, aquatic plants. Centre for Natural Resources, DLWC, PO Box U245, UNE, Armidale NSW 2351. Phone (02)6773 2578, Fax (02)6773 3283 email: mbrock@metz.une.edu.au

Prof. S. Bunn: stream ecology, ecology of riparian zones, biomonitoring. Faculty of Environmental Sciences, Griffith University, Nathan, Qld 4111. Phone (07)3875 7407, Fax (07)3875 7459, email: s.bunn@mailbox.gu.edu.au

Dr M.Casanova: charophytes, temporary wetlands
RMB L620 Westmere Vic 3351
Phone 03 53506533, Fax 03 53506533 email: amncova@netconnect.com.

A/Prof J.Davis: wetland and stream ecology, ecology of central Australian waterbodies. School of Environmental Studies, Murdoch University, Murdoch WA 6150. Phone (08)9360 2939, fax (08)9310 4997
email: davis@essun1.murdoch.edu.au

Prof. P. De Deckker: salt lakes: biology, chemistry and history; palaeolimnology towards understanding past environmental change.
Dept. of Earth & Marine Sciences, The Australian National University Canberra ACT 0200. Phone: 02 6125 2070, fax: 02 6125 5544,
e-mail: patrick.dedeckker@anu.edu.au

Dr. M. Douglas: tropical freshwater ecology, intermittent streams, tropical floodplains. School of Biological and Environmental Sciences, Northern Territory University, Darwin, NT 0909 Phone: (08)8946 7261, Fax: (08)8946 6847, email: michael.douglas@ntu.edu.au

Dr S.Eberhard: Subterranean wetlands, groundwater ecology, caves, karst
Department of Conservation and Land Management, Woodvale Research Centre, PO Box 51, Wanneroo, WA 6065, Australia
Phone (08) 9405 5183 Fax (08) 9306 1641, email: stefane@calm.wa.gov.au

Dr T. Entwisle: taxonomy and ecology of freshwater macroalgae.
Executive Director, Botanic Gardens Trust, Mrs Macquaries Road, Sydney NSW 2000, Australia.Phone: (02)9231 8112, Fax: (02)9251 4403
email: tim.entwisle@rbgsyd.nsw.gov.au.

Dr M. Finlayson: wetland ecology and management; mining and agriculture impacts; inventory and assessment, Ramsar convention. Wetlands Ecology, IWMI, PO Box 2075, Colombo, Sri Lanka. Phone: +94-11-2787404 extn 1306 Mobile +94-777562217, email: m.finlayson@cgiar.org

Dr A. García: taxonomy, ecology, biology and biogeography of extant and fossil charophytes. School of Earth and Environmental Sciences, University of Wollongong NSW 2522 Phone: (02) 42215966 Fax: (02) 42215703, e-mail: adriana@uow.edu.au

Dr M.Grace: nutrient cycling and biogeochemical processes.
CRC for Freshwater Ecology & Water Studies Centre, Chemistry Department, Monash University, Clayton, Victoria, 3800. Phone (03)9905 4078,
Fax (03)99054196, email:michael.r.grace@sci.monash.edu.au

Dr T. Grant: platypus biology. Biological Science, University of NSW, PO Box 502, Cronulla, NSW 2230. Phone (02)9527 2862, Fax (02)9527 2862, email: t.grant@unsw.edu.au

Associate Professor M. Greenway: Constructed wetlands, Melaleuca wetlands, biogeochemical processes. School of Environmental Engineering, Faculty of Environmental Engineering, Griffith University Nathan Qld 4111. Phone: (07)3875 7486, Fax: (07)3875 7404, email: m.greenway@mailbox.gu.edu.au

Dr M.Harvey: watermites. Western Australian Museum, Francis Street, Perth WA 6000. Phone (08)9427 2737, fax (08)9427 2882, email: mark.harvey@museum.wa.gov.au

K. Hortle: impact of mining, impact of development in SE Asia and PNG on rivers. Fisheries and Environment Consultant, 23A Waters Grove. Heathmont 3135, Phone and Fax: (03) 9720 5891, email: kent_hortle@bigpond.com

A/Prof P. Horwitz: conservation of freshwater invertebrates. Centre for Ecosystem Management, Edith Cowan University, Joondalup Drive, Joondalup, WA 6027. Phone (08)9400 5558, Fax: (08)9400 5070 email: phorwitz@cowan.edu.au

Dr P. Humphries: fish ecology, in-stream flows. CRC Freshwater Ecology, MDFRC, PO Box 921, NSW 2640. Phone (02)6058 2317, Fax:(02)6043 1626 email: hump@mdfrc.canberra.edu.au

Dr G. Jones: cyanobacterial blooms. CRCFE, University of Canberra, ACT 2601. Phone: (02)6201 5168, Fax: (02)6201 5038, email: jones@enterprise.canberra.edu.au

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